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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,021	10/27/2003	James M. Irion II	004578.1376	4246

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EXAMINER	
CHEN, SHIH CHAO	
ART UNIT	**PAPER NUMBER**
2821	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/695,021	IRION ET AL.	
	Examiner	Art Unit	
	Shih-Chao Chen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,13-18,20 and 26-31* is/are rejected.

7)☒ Claim(s) *7,9-12,19 and 21-25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ ~~Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)~~ Paper No(s)/Mail Date *2/24/04 & 5/24/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ ~~Notice of Informal Patent Application (PTO-152)~~
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 9, line 22, "the array array 10" should be changed to --array antenna 10--..

Appropriate correction is required.

2. Claims 1-25 are objected to because of the following informalities: in line 1, "An apparatus" should be changed to --A tapered slot antenna--, because the preamble should contain the definition of the invention. Appropriate correction is required.

3. Claims 26-31 are objected to because of the following informalities: in line 1, "A method of operating an apparatus" should be changed to --A method of operating a tapered slot antenna--, because the preamble should contain the definition of the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-6, 8, 13, 17-18, 20, 26 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Mott et al. (U.S. Patent No. 5,461,392).

Regarding claim 1, Mott et al. teaches in figures 1-10 a tapered slot antenna, comprising: a slot section (i.e. an aperture area) having electrically conductive

material which defines a slot with first and second ends; an electrically conductive element [202] extending generally transversely to the slot in the region of the first end thereof; and a balun portion [204] communicating with the first end of the slot, the balun portion having a high impedance [206, 212] and being configured provide a selected degree of absorption of electromagnetic energy (I.e. absorptive RF loading material, See FIG. 9-10).

Regarding claim 5, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 1, wherein the balun portion [204] includes a resistive portion [206, 212] which facilitates the selected degree of absorption of electromagnetic energy.

Regarding claim 6, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 5, wherein the resistive portion [206, 212] includes a sheetlike portion [212] which extends approximately transversely to a centerline of the slot, and which is spaced from the first end the slot.

Regarding claim 8, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 5, wherein the balun portion [204] includes a filler portion (i.e. the dielectric spacer, below [212], See FIG. 9) made of a material with a low dielectric constant.

Regarding claim 13, Mott et al. teaches in figures 1-10 a tapered slot antenna, comprising: a slot section (i.e. an aperture area) having electrically conductive material which defines a plurality of slots that each have a first end and a second end; a plurality of electrically conductive elements [202] which each extend generally transversely to a respective the slot in the region of the first end thereof; and a plurality

of balun portions [204] which each communicate with the first end of a respective the slot, each the balun portion having a high impedance [206, 212] and being configured to provide a selected degree of absorption of electromagnetic energy (i.e. absorptive RF loading material, See FIG. 9-10).

Regarding claim 17, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 13, wherein each the balun portion [204] includes a resistive portion [206, 212] which facilitates the selected degree of absorption of electromagnetic energy.

Regarding claim 18, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 17, wherein the slots have centerlines which are all approximately parallel to each other (See FIG. 9); and including a sheet of resistive material [212] which is spaced from the first end of the slot, which extends approximately transversely to the centerlines of the slots, and which has a plurality of portions that each serve as the resistive portion of a respective the balun portion [204].

Regarding claim 20, Mott et al. teaches in figures 1-10 a tapered slot antenna according to Claim 17, wherein each the balun portion [204] includes a filler portion (i.e. the dielectric spacer, below [212], See FIG. 9) made of a material with a low dielectric constant.

Regarding method claims 26 and 30-31, the apparatus discussed above would perform the claimed method.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2-4, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mott et al. (Cited above).

Mott et al. discloses the claimed invention except for the percentage of energy is with a range of approximately 5% to 20% or 9% to 15% or 12%. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the percentage of energy, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

8. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mott et al. (Cited above).

Mott et al. discloses the claimed invention except for the percentage of energy is with a range of approximately 80% to 95% or 85% to 90% or 88%. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the percentage of energy, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Allowable Subject Matter

9. Claims 7, 9-12, 19 and 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Primary Examiner
Art Unit 2821

Shih-Chao Chen
SHIH-CHAO CHEN
PRIMARY EXAMINER

SXC
July 8, 2005